

### **REMARKS**

Claims 1-27, 29-33, 35 and 37 are all the claims pending in the application. Claims 1, 22-24, 26, 27 and 29-33 are amended. Claim 37 is cancelled.

#### **Support for Amendments**

Claims 1 and 22 to 24 have been amended to provide an introduction of the electron-injecting and hole-injecting electrodes as elements of the transistor.

Claims 22 to 24 have been amended to mention of a gate dielectric layer forming an interface with the semiconductive layer.

In claims 1 and 22 to 24, Applicants have specified that the electron-injecting and hole-injecting electrodes are arranged for the travel of charge carriers along the interface between the dielectric layer and the hole-injecting layer. This latter amendment is based on Figure 3a of the original PCT specification and the reference at page 11, lines 20-21 of the original PCT specification to charge carriers travelling along the dielectric/semiconductor interface.

Re. double-patenting rejection of section 10: we note that this is a repeat of the rejection raised in the previous office action; and that it was decided previously to deal with this rejection by terminal disclaimer. It appears from section 15 of the office action (page 22) that the terminal disclaimer was missing from the response to the previous office action. In this connection, please note that there is a plan to license this patent to another party exclusively in relation to a specific product area. **If the filing of a terminal disclaimer is incompatible with this plan, please let me know.**

#### ***Claim Objections***

Claim 37 is objected to because the phrase "the semiconductive layer" in Line 3 should read "the organic semiconductive layer." This objection is moot in view of the cancellation of the claim.

#### ***Claim Rejections - 35 USC § 112***

**Claims 29-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite.** This rejection is traversed for at least the following reasons.

In framing the rejection of these claims, which depend from claim 1, the Examiner states that “the manner in which claim 1 is written fails to set forth that the device actually comprises an electron-injecting electrode or a hole-injecting electrode.

Claim 1 is amended with the aim of making it clearer that the claimed transistor is intended to comprise the electron-injecting and hole-injecting electrodes, which are referred to in rejected claims 29 to 33.

Given this support in the parent claim, the rejection would be overcome.

***Claim Rejections - 35 USC § 102***

**Claims 22 and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi (280) in view of Ruzyllo (Semiconductor Glossary; provided as evidence of "transistor").** This rejection is traversed for at least the following reasons.

First, as to claim 37, the rejection is moot in view of the cancellation of the claim.

Second, regarding claim 22, the claim is amended so as to specify that the hole-injecting and electron-injecting electrodes are arranged for the travel of charge carriers along the dielectric/semiconductor interface.

In stark contrast, in the device of Hayashi, Applicants note that the anode (5a in the drawings of Hayashi) and cathode (3a in the drawings of Hayashi) are arranged on opposite sides of the light-emitting material layer (1 in the drawings of Hayashi), whereby charge carriers travel in a direction substantially perpendicular to the plane of the light-emitting material layer 1.

**Claim 37 is rejected under 35 U.S.C. 102(e) as being anticipated by Heeger (583).** This rejection is moot in view of the cancellation of the claim.

***Claim Rejections - 35 USC § 103***

**Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi (280) in view of Ruzyllo (Semiconductor Glossary; provided as evidence of "transistor").** This rejection is traversed for at least the following reasons.

Claims 23 and 24 are also amended so as to specify that the hole-injecting and electron-injecting electrodes are arranged for the travel of charge carriers along the dielectric/semiconductor interface.

In the device of Hayashi, Applicants note that the anode (5a in the drawings of Hayashi) and cathode (3a in the drawings of Hayashi) are arranged on opposite sides of the light-emitting material layer (1 in the drawings of Hayashi), whereby charge carriers travel in a direction substantially perpendicular to the plane of the light-emitting material layer 1.

**Claims 1-21, 25-27, 29-33 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi (280) in view of Kelley (472) in view of Ruzyllo (Semiconductor Glossary; provided as evidence of "transistor").** This rejection is traversed for at least the following reasons.

**Amended Claim 1**

Firstly, claim 1 is amended so as to specify that the hole-injecting and electron-injecting electrodes are arranged for the travel of charge carriers along the dielectric/semiconductor interface. This clearly means within the approximate plane of the light-emitting material layer 1.

**Hayashi**

In the device of Hayashi, the anode (5a in the drawings of Hayashi) and cathode (3a in the drawings of Hayashi) are arranged on opposite sides of the light-emitting material layer (1 in the drawings of Hayashi), whereby charge carriers travel in a direction substantially perpendicular to the plane of the light-emitting material layer 1.

**Kelly**

Secondly, Kelly does not remedy this deficiency.

Third, the Examiner has alleged that the polysiloxanes used in Kelley must meet the electron affinity requirements of claim 1 because page 28 of the specification for the present application also mentions polysiloxanes as examples of materials for the dielectric layer. However, the same page 28 of the specification of the present application indicates that the identified polysiloxanes can be used after appropriate purification; and page 25 of the

specification for the present application teaches that dielectric materials containing excessive amounts of trapping groups as defects need to be rigorously purified so that the concentration of trapping groups is reduced to below the critical concentration discussed earlier in the specification.

There is no suggestion from the Examiner that the polysiloxanes mentioned in Kelley are ones that have been subjected to the kind of rigorous purification process necessary to achieve the exceptionally low concentrations of trapping groups. Applicants respectfully submit that it does not therefore follow that the polysiloxanes mentioned in Kelly must meet the electron affinity requirements of claim 1 of the present application.

**Claims 2-21, 25-27, 29-33 and 35**

These claims would be patentable for reasons given for parent claim 1.

***Double Patenting***

**Claims 1-27, 29-33, 35 and 37 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of U.S. Patent No. 7,638,793.** This rejection is traversed for at least the following reasons.

This rejection is traversed on the basis of the accompanying Terminal Disclaimer. Applicants inadvertently failed to file the document with the last reply.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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**23373**

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